

Schulenberg
(Weissman)

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W. S. WIDNALL

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Cambridge, Massachusetts

LUMINARY Memo #33

TO: William S. Widnall
FROM: George W. Cherry
DATE: June 24, 1968
SUBJECT: Z-Axis Tracking in LUMINARY

The Z-axis tracking is now working during P20 operation in LUMINARY. However, I have been told that the radar shaft and trunnion angles are often around 6 or 7 degrees when the radar is read. This may mean that the DAP is not operating in a minimum impulse limit cycle during Z-axis tracking and that RCS propellant consumption is excessive. Remember, we tried to design the Z-axis track so that the attitude error would not exceed the MINIMPDB zone. If we are not succeeding in this, we must take corrective action such as increasing MINIMPDB, for example, during fine Z-axis tracking.

Please accept the responsibility for looking into this Bill.
Someone in 23B will be able to show you the data.

DISTRIBUTION

D. Hoag
N. Sears
D. Lickly
J. Saponaro
C. Schulenberg
P. Volante
P. Weissman
D. Keene

To: George plus Distribution

From: Bill

Date: 27 June

Joe Saponaro and Pete Volante showed us their runs, and they look perfectly normal. The radar yaw degree-of-freedom is being held within the 5 degree p-axis deadband and the radar pitch degree-of-freedom is being held within the 7 degree (effective) w-plus v-axis deadband. RCS fuel consumed after several hundred seconds was only 0.1 kilogram.

If tighter attitude control is required (for AGS alignment requirements or other reasons) the DAP narrow deadband should be selected.